

REMARKS

Following a prior restriction requirement and the subsequent election, Claims 1-11 and 20-25 have been withdrawn and Claims 12-19 have been elected and substantively examined. Of these, Claims 12-19 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,536,522 to Olin B. Cecil et al. Additionally, Claims 12-19 are rejected under 35 U.S.C § 102(b) as being anticipated by U.S. Patent No. 5,213,767 to James R. Smith, et al. As described below, independent Claim 12 has been amended to further patenably distinguish the claimed invention from the cited references. Based on the forgoing amendments and the following remarks, it is respectfully requested that the present application be reconsidered and the amended set of claims allowed.

Independent Claim 12 is directed to a gettering filter that includes a vessel defining an inlet and an outlet through which gas enters and exits, respectively. The gettering filter also includes a plurality of pieces of an oxidizable material disposed within the vessel. The oxidizable material is selected to oxidize upon exposure to oxygen in the gas such that the gas exiting the vessel through the outlet has less oxygen than the gas entering the vessel through the inlet. The gettering filter also includes a heater in thermal communication with the vessel to heat the plurality of pieces of oxidizable material. As now amended, independent Claim 12 recites that the heater is "configured to increase a temperature of said plurality of pieces of the oxidizable material as an oxide layer formed upon said plurality of pieces of the oxidizable material also increases."

As described in the paragraph that bridges from page 9 to page 10 of the present application, the removal of oxygen from the gas as a result of the oxidation of the pieces of oxidizable material may be facilitated by heating the pieces of oxidizable material. In particular, once an oxide layer has begun to form upon the oxidizable material, the efficiency with which the oxidizable material removes additional oxygen from the gas begins to decrease. By increasing the temperature of the oxidizable material as the oxide layer builds upon the

oxidizable material, the decrease in efficiency with which the oxidizable material will otherwise further oxidize may be at least partially offset.

Neither of the cited references teaches or suggests a heater that is “configured to increase a temperature of said plurality of pieces of the oxidizable material as an oxide layer formed upon said plurality of pieces of the oxidizable material also increases”, as now set forth by amended independent Claim 12. In contrast, the Cecil ‘522 patent describes a method of purifying a stream of gas, such as prior to deposition upon the substrate, by flowing the gas through a particulate bed of silicon housed within a vessel. The Cecil ‘522 patent further describes that the particulate bed of silicon and the vessel may be surrounded by an electrical resistance coil which heats the silicon. However, the Cecil ‘522 patent does not teach or suggest that the heater should be configured to increase the temperature of the particulate bed of silicon as an oxide layer is formed thereupon. Additionally, the Smith ‘767 patent describes a gas treatment apparatus that includes multiple stages, namely, a first stage containing silicon, a second stage containing lime or soda lime and an optional third stage containing copper oxide or copper oxide reagents. In the first stage, silicon granules or lumps are housed within a container that may be heated, such as by heat supplied through the walls of the container or alternatively by induction heating or an internally placed heat source. See column 3, lines 56-58 of the Smith ‘767 patent. Like the Cecil ‘522 patent, however, the Smith ‘767 patent does not teach or suggest a heater that is configured to increase the temperature of the silicon granules or lumps as an oxide layer is formed therefrom.

Since neither reference teaches or suggests a heater configured to increase the temperature of the oxidizable material as an oxide layer is formed therefrom, it is submitted that neither of the cited references teaches or suggests the gettering filter of amended independent Claim 12, as well as the claims which depend therefrom. As such, the rejections of Claims 12-19 are therefore submitted to be overcome.


Appl. No.: 10/657,606
Amdt. dated July 18, 2007
Reply to Office Action of January 18, 2007

CONCLUSION

In view of the amendments to the claims and the remarks presented above, Applicants respectfully submit that the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicant's undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



Guy R. Gosnell
Registration No. 34,610

Customer No. 00826
ALSTON & BIRD LLP
Bank of America Plaza
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
Tel Charlotte Office (704) 444-1000
Fax Charlotte Office (704) 444-1111

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UNITED STATES PATENT & TRADEMARK OFFICE ON July 18, 2007.

LEGAL02/30454124v1